

BREAST CANCER

BACKGROUND

Facts about breast cancer

- Breast cancer affects both men and women, though it occurs rarely in men.
- Breast cancer is the most common form of cancer in women with the exception of skin cancer.
- Breast cancer accounts for about of all cancers diagnosed in Massachusetts women.
- The risk of developing breast cancer increases with age.
- When breast cancer is found at an early stage, the chance of a cure is much better. Screenings, such as mammograms, can help find breast cancer early.

What is breast cancer?

- Breast cancer is a disease that develops when abnormal cells from the breast tissue grow out of control.
- Most lumps in the breast are benign (not cancerous). In general, benign breast lumps do not increase a woman's risk of developing breast cancer. Any new lumps found in the breast should be checked by your health care professional.
- *In situ* refers to the earliest stage of cancer, when it is limited to a small number of cells and has not spread.
 - Lobular carcinoma *in situ* (LCIS) consists of abnormal cells that begin in the lobules (where milk is produced) of the breast. LCIS may never spread further.
 - Ductal carcinoma *in situ* (DCIS) consists of cancer cells that begin in the ducts (tubes that carry milk from the lobules to the nipple) and have not yet spread to other parts of the breast. DCIS is best found with a mammogram.
- Invasive is a word that describes cancers that have spread to the surrounding tissue and have the potential to spread to other parts of the body. The 2 major types of invasive breast cancer are invasive lobular carcinoma and invasive ductal carcinoma.
 - Invasive lobular carcinoma accounts for about 10% of invasive breast cancers. It begins in the lobules of the breast.
 - Invasive ductal carcinoma begins in the ducts of the breasts and has begun to spread to other breast tissue. It accounts for about 80% of invasive breast cancers.
- Less common types of breast cancer are inflammatory breast cancer, mixed tumors, medullary cancer, metaplastic carcinoma, mucinous carcinoma, Paget disease of the nipple, tubular carcinoma, papillary carcinoma, adenoid cystic carcinoma, phyllodes tumor, and

angiosarcoma. These will not be discussed here, however, you may refer to the Related Links section of this web page for other sites that will have extensive lists of the less common types of breast cancers.

What are the signs and symptoms of breast cancer?

The symptoms of breast cancer include:

- A lump or thickening of the breast
- Bloody discharge from the nipple
- Retraction or pulling back of the nipple into the breast
- Scaly skin around the nipple, or other changes in skin color or texture
- Swelling, redness or the sensation of heat in the breast
- A lump in the armpit
- Unusual, persistent pain or tenderness in the breast, arm or chest wall

Talk with your health care professional about any questions you may have.

What are the risk factors for breast cancer?

Risk factors for breast cancer include:

- Age (Breast cancer can occur at any age, but the chance of having breast cancer is higher in women age 45 and older.)
- Having a prior personal history of breast cancer .
- Having a family (mother, sister or daughter) history of breast cancer, especially if it was detected premenopausally (before menopause).
- Having had high-dose radiation therapy to the chest (for example, in the treatment of Hodgkin's disease), especially if this treatment occurred between the ages of 11 and 30 .
- Having your first child after age 30 or never giving birth to a child .
- Early menstruation (before age 13) or late menopause (after age 55), both of which result in a woman menstruating over a longer period of time .
- Having inherited a mutation in breast cancer susceptibility genes such as BRCA1 or BRCA2.
- Having certain benign breast conditions return as abnormal biopsy results due to excessive growth of cells in the tissue .
- Being overweight or gaining weight after menopause .
- Taking postmenopausal hormones (or hormone replacement therapy) after menopause .
- Having more than 3 alcoholic drinks per day .
- Taking birth control pills. Women have a slightly elevated risk while they are taking the pills. Once they stop, their risk returns to that of women who never used birth control pills.

Possible risk factors:

- Not eating enough fruits and vegetables.
- Environmental exposures (for example, certain pesticides and PCBs) .

PREVENTION AND SCREENING

How can I reduce my risk of developing breast cancer?

To lower the risk of breast cancer:

- If you don't drink, then don't start.
- Limit your consumption of alcoholic beverages you drink for the week to equal less than 1 alcoholic drink a day (1 drink equals 1 can or bottle of beer (12 ounces), 1 glass of wine (5 ounces), or 1 shot of liquor (1.5 ounces)).
- Maintain a healthy body weight and avoid constant weight gain over time as an adult
- Eat a diet high in fruits and vegetables

Screening for breast cancer

Screening for breast cancer saves lives by detecting the disease early in its most treatable stage. There are 3 screening exams for breast cancer:

- Breast self-examination
- Clinical breast examination
- Mammogram

How often a woman should have each of these exams depends on her age.

- Women age 20-39 years old should perform a monthly breast self-exam and receive a clinical breast exam every 1 to 3 years. Mammograms are not routine for women under age 40 except for women with strong risk factors. These risk factors include a family history of premenopausal breast cancer (mother or sister) or a personal history of breast, ovarian, or endometrial cancer.
- Women age 40 and older should perform a monthly breast self-exam, receive an annual clinical breast exam, and get an annual mammogram.
- Women age 70 and older, should discuss breast cancer screening with their health care professional.

If you are a woman and 20 years of age or older, then you should examine your breasts once a month. The examine should be done about 3 to 5 days after the end of each period. If you are no longer menstruating, then establish a routine by examining your breasts on the same day every month. Your health care professional can show you the proper technique to use when examining your breasts.

DIAGNOSIS AND TREATMENT

This site provides general information that may apply to your specific situation. You may choose to visit the National Cancer Institute's web site at www.cancer.gov, which is updated more frequently. Once there, you will be able to select from a full range of cancer topics. If you want to speak with a cancer information expert confidentially, you may choose to call 1-800-4CANCER (1-800-422-6237) between 9:00 AM - 4:30 PM.

It is always best to discuss your personal risk for cancer as well as your screening, diagnosis and treatment needs with your health care provider before you commit to a course of action.

How is breast cancer diagnosed?

Every breast lump should be checked by a health care professional. Suspicious lumps may be examined further by a health care professional using:

- Diagnostic mammograms which are similar to an x-ray, and display an image of the breast tissue. A radiologist will read the mammogram and determine if additional tests are needed. These mammograms are also read by computer-aided detection and diagnosis (CAD) software, which helps to check suspicious changes on mammograms.
- Ultrasound uses high-frequency sound waves to create an image of the breast by sending waves into the breast and reading the echoes that bounce off the tissue inside the breast. Ultrasounds are used with mammograms as a way to determine if the breast tissue has changed, especially in women that have dense breast tissue.
- Magnetic Resonance Imaging (MRI) is a scan that uses radio waves and a contrast dye to look at the whole body. It can be used to detect cancer in women who are at high risk of breast cancer.
- A biopsy is a procedure in which all or part of the abnormal tissue is removed and examined to see if it is cancerous. In a fine needle aspiration biopsy (FNAB), a needle is inserted into the lump to draw out tissue or fluid to look for any abnormal cells. An ultrasound is used to position the needle correctly. A stereotactic core needle biopsy will take a larger sample of the lump using a needle to also draw out the sample. In a surgical biopsy, the lump, or a portion of the lump, is removed for further study. This is usually done at a hospital on an outpatient basis. Biopsies allow the pathologist to identify the type of cell that may be growing abnormally and gives the cell a grade. The grade can help to predict the patient's response to treatment by comparing the abnormal cells to how that type of cell should look normally.
- For estrogen, progesterone, and HER2/neu receptor status, the cancer cells are tested to see if there are certain connectors on the cells that would allow hormones or proteins to attach to the surface of the cells. Estrogen and progesterone hormones are the reproductive hormones found in females. The HER2/neu protein promotes growth in the cell. Knowing the receptor status of the cancer cells can help tailor the treatment to the cancer and may improve the outcome of the treatment.

How is breast cancer treated?

Breast cancer is usually treated with some form of surgery (operation), such as a lumpectomy (in which the cancer and some normal tissue around it are removed, but the rest of the breast is left intact) or a mastectomy (in which the entire breast is removed).

Your health care professional may remove and examine some of the lymph nodes in your underarm area or armpit as well, to see if the cancer has spread to this area. This surgery may be done at the time of the original surgery or during a separate surgery a week or more later. Examining these lymph nodes can help your health care professional make a decision about the effectiveness of additional treatment.

In addition to the surgeries mentioned, radiation, chemotherapy , hormonal therapy and/or targeted therapy are sometimes used to treat breast cancer as well.

Women who choose a mastectomy may also choose to have breast reconstruction (using tissue from the abdomen or back to form a new breast). This can be done at the time of surgery or later.

You and your health care professional should discuss the options, and together make a decision about what treatment is best for you.

STATISTICS

How many people are diagnosed with breast cancer? How many people die from it?

- The American Cancer Society estimates that in 2008 there will be 182,460 new cases of breast cancer in women in the United States. The estimated new cases of breast cancer in women for 2008 in Massachusetts are 4,480.
- The American Cancer Society also estimates in 2008 there will be 40,480 deaths from breast cancer in women in the United States. The estimated deaths from breast cancer in women for 2008 in Massachusetts are 860.
- The national five-year relative survival rates for 1996-2004 show that 87.6% of females under 50 years of age and 90.0% of females that are 50 years of age and over survive five years after diagnosis of breast cancer.
- In Massachusetts, between 2001 and 2005, the age-adjusted incidence rate of breast cancer in women was 134.2 per 100,000 females.
- The age-adjusted mortality rate of breast cancer in Massachusetts women was 24.8 deaths per 100,000 females between 2001 and 2005.
- The age-adjusted incidence rate of breast cancer for women is 8.6% higher in Massachusetts than nationally (based on data from the North American Association of Central Cancer Registries, 2001-2005).
- The age-adjusted mortality rate of breast cancer for women is 0.8% lower in Massachusetts than nationally (based on data from North American Association of Central Cancer Registries, 2001-2005).

For additional statistics on breast cancer in Massachusetts, see Massachusetts Community Health Information Profile (MassCHIP) Instant Topics Cancer - Cancer: Breast [<http://masschip.state.ma.us/InstantTopics/affiliate.htm>]. Please click on an affiliation, select *Cancer* in the Instant Topic list, then select *Cancer: Breast*.

DPH PROGRAMS AND INFORMATION

DPH breast cancer programs

Clients receiving their healthcare at a Men's Health Partnership or Women's Health Network participating health care centers are provided individualized care coordination and personalized lifestyle coaching. These additional services will make it easier for clients to follow through with healthcare provider's recommendations, adopt healthier lifestyles, and therefore attain a better health outcome. This is just one of the Division of Health Promotion and Disease Prevention's efforts focusing on health disparities.

Publications and Materials

Reports

The following reports can be accessed from the Massachusetts Cancer Registry website at <http://www.mass.gov/dph/bhsre/mcr/canreg.htm>

- *Cancer Incidence and Mortality in Massachusetts, 2001-2005*
- *Cancer Incidence in Massachusetts 2001-2005: City and Town Supplement*

Pamphlets, Brochures and Videos

The following breast cancer publications are available through the Massachusetts Health Promotion Clearinghouse by calling 1-800-952-6637 or visiting www.maclearinghouse.com

RELATED LINKS

Background/General Links

American Cancer Society (ACS)

- ♦ Cancer Reference Information: All About Breast Cancer
http://www.cancer.org/docroot/cric/cric_2x.asp?sitearea=cric&dt=5

Harvard School of Public Health

- Disease Risk Index
<http://www.diseaseriskindex.harvard.edu/update/>

National Cancer Institute (NCI)

- ♦ Breast Cancer
http://www.cancer.gov/cancer_information/cancer_type/breast
- ♦ What You Need To Know About Breast Cancer
http://www.cancer.gov/templates/doc_wyntk.aspx?viewid=41a364e8-6f7e-4c6c-981a-fce1c07f9c5d

Prevention and Screening Links

American Cancer Society (ACS)

- ♦ How to Perform a Breast Self-Examination.

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http://www.cancer.org/docroot/nws/content/nws_2_1x_how_to_perform_a_breast_self_examination.asp

Centers for Disease Control and Prevention (CDC)

- ♦ National Breast and Cervical Cancer Early Detection Program
<http://www.cdc.gov/cancer/nbccedp>

National Cancer Institute (NCI)

- ♦ Breast Cancer (PDQ): Prevention
http://www.cancer.gov/cancer_information/doc_pdq.aspx?version=patient&viewid=d972a74b-d25a-4f86-b8ed-33eb3c0450e4
- ♦ Breast Cancer (PDQ): Screening
http://www.cancer.gov/cancer_information/doc_pdq.aspx?version=patient&viewid=b906d0d0-63ac-4d55-ac29-2ae992440adf

Diagnosis and Treatment Links

American Cancer Society (ACS)

- ♦ NexProfiler Treatment Option Tool for Breast Cancer
<https://www.cancer.nexcura.com/Secure/InterfaceSecure.asp?CB=266>

National Cancer Institute (NCI)

- ♦ Breast Cancer (PDQ): Treatment
http://www.cancer.gov/cancer_information/doc_pdq.aspx?version=patient&viewid=53d97cb-a-89a2-45d4-b55d-b7b5ad7dc2dd
- ♦ Clinical Trials
http://www.cancer.gov/clinical_trials

National Institutes of Health

- ♦ ClinicalTrials.gov
<http://www.clinicaltrials.gov/>

Statistics Links

American Cancer Society (ACS)

- ♦ Statistics
http://www.cancer.org/docroot/stt/stt_0.asp

Centers for Disease Control and Prevention (CDC) and National Cancer Institute (NCI)

- ♦ *United States Cancer Statistics*
<http://www.cdc.gov/cancer/npcr/uscs/index.htm>

National Cancer Institute (NCI)

- ♦ *Surveillance, Epidemiology and End Results (SEER) Cancer Statistics Review, 1975-2004*
http://seer.cancer.gov/csr/1975_2004/

North American Association of Central Cancer Registries (NAACCR)

- ♦ Statistics & Reports

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http://www.naaccr.org/index.asp?Col_SectionKey=11&Col_ContentID=49